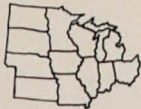
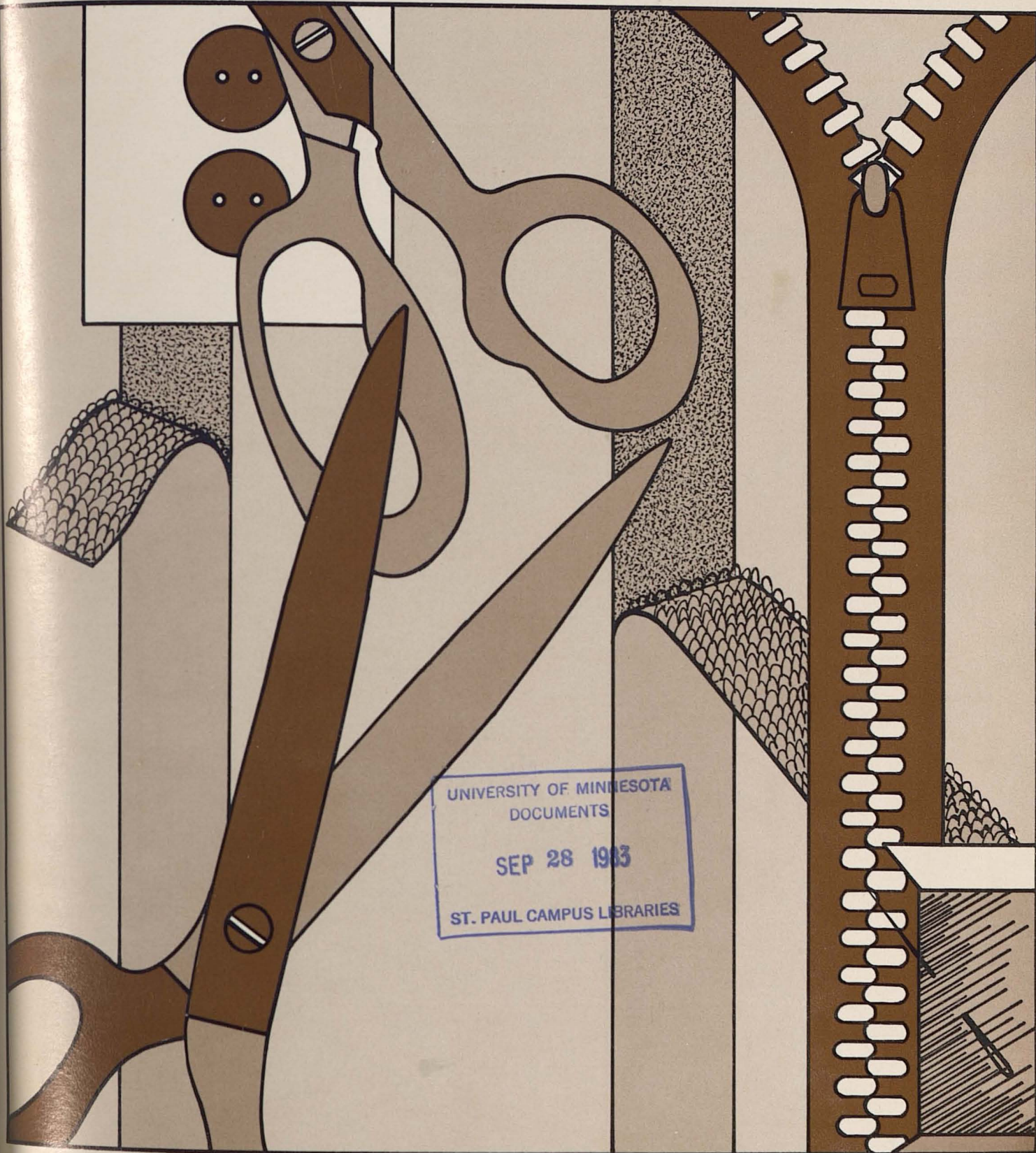


Clothing for People With Physical Handicaps

North Central Regional
Extension Publication 101
Illinois Circular 1177



Sponsored by the Extension Services of Illinois, Indiana, Iowa, Kansas,
Michigan, Minnesota, Missouri, Nebraska, Ohio, South Dakota, and Wisconsin.
In cooperation with SEA—Extension, USDA.



Minnesota Extension Bulletin 445, 1980

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Appreciation is expressed to Mrs. Mary Adams, Director, Occupational Therapy, School of Health Related Professions, University of Mississippi Medical Center (formerly on the staff of the University of Illinois); and to Dr. Shirley McCluer, Supervisor of Medical Services, Rehabilitation Center, University of Illinois at Urbana-Champaign, for their professional advice and cooperation in gathering the research data and information that serve as the basis for this publication. A special thanks is given to the disabled individuals who so graciously shared their experiences in learning to solve their particular clothing problems.

Urbana, Illinois

March, 1980

In cooperation with NCR Educational Materials Project.

Issued in furtherance of Cooperative Extension work, Acts of Congress of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture and Cooperative Extension Services of Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin. William R. Oschwald, Director, Cooperative Extension Service, University of Illinois at Urbana-Champaign, Urbana, Illinois 61801.

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Clothing for People With Physical Handicaps

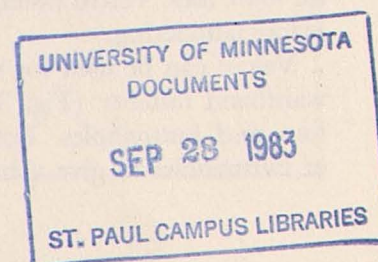
By Marjorie Mead

MOST OF US take for granted the availability of attractive, well-fitted, and functional clothing. For many disabled people, however, the clothing available on the market is uncomfortable and difficult or impossible to manage. Other individuals, though not disabled, have physical handicaps that create special problems in dressing comfortably, attractively, and independently.

This publication offers suggestions for solving the clothing problems related to some of the most common disabilities and physical handicaps. Although minor or even major alterations of ready-to-wear garments or patterns may often be necessary, many difficulties can be overcome by the proper selection of design details, fabrics, and fasteners.

The conditions related to a single disability are frequently multifaceted. Someone who has had a stroke, for example, may have a limited range of motion on the affected side of the body, incoordination, sensory loss, and poor balance, and may also use one or more types of adaptive equipment. To meet the needs of such an individual, it will be helpful to refer to several sections of this publication. In other instances all the necessary information may be found in one section. Wearing a cast, for example, is an isolated disability that calls for a few specific, temporary clothing adjustments.

For those who need information beyond the scope of this publication, a list of sources is given on page 24.



Limited Range of Motion

Although many diseases, injuries, and disabling conditions limit the range of motion possible for an individual, arthritis is one of the greatest cripplers. Two of the most severe forms of this disease are *rheumatoid arthritis* and *osteoarthritis*. Rheumatoid arthritis is a progressive inflammatory disease that primarily attacks the joints and can affect the entire body. Osteoarthritis, a noninflammatory disease of the joints, results from increased age.

The ability of the arthritic individual to function independently or with little assistance depends on the type of arthritis and degree of severity. Some of the side effects that inhibit mobility are swelling, stiffness, and tenderness of joints; inability to move the fingers or grasp anything with them; and intense pain when moving and bending the weight-bearing joints.

The following ideas for making dressing easier have been developed by those who have experienced the limitations of arthritis personally or who have had the care of someone with arthritis.

Design and Fabric

Such garments as nightgowns, blouses, and dresses should open full length, or at least through the waist, to eliminate as much effort as possible in getting them over the head and arms. For persons with very little mobility, garments can be opened so that they will lie flat, then wrapped around the person in a lying down position and fastened with zippers, snaps, or pressure tape (Fig. 1).

Fabrics should be lightweight, soft, and flexible, so there will not be undue pressure on the individual.

Fasteners

Pressure tape (Velcro) can be used in small pieces or as continuous strips (Fig. 2). The longer the pieces, the greater the holding power, but the harder it is to put them together smoothly and to pull them apart. Even so, Velcro is relatively easy to manage since pressure is needed rather than manual dexterity. Its thickness may make it less attractive than other fasteners for some uses. Velcro fasteners should always be closed before laundering.

Velcro can be used for many purposes. One is as a waistband fastener (Fig. 3). It can also replace buttons and buttonholes. Buttons can be sewn on top of buttonholes to give a buttoned look (Fig. 4).

Velcro can be inserted in the side seams or inseams of pants (Fig. 5) and in the front or side seams of skirts. The insertions can extend along part or all of the seams. It may also be inserted in the shoulder or raglan seam of a T-shirt or collarless top (Fig. 6).

A back-opening bra can be converted to a front-opening one and Velcro used as a fastener. An additional Velcro strap will keep the fastener from popping open (Fig. 7).

Velcro is also useful in shoes (page 6).

Buttons should slip through the buttonholes easily. They should be large and somewhat textured for ease in grasping. There are a variety of ways to make them

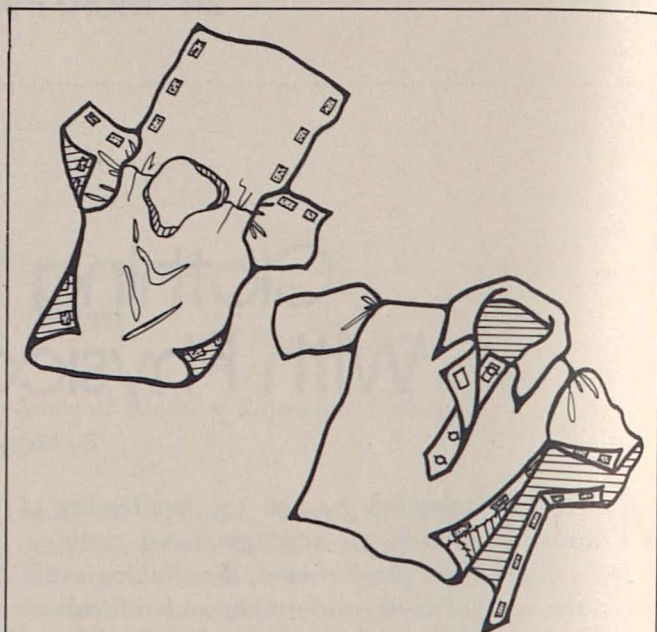


Fig. 1. Garments can be opened flat and wrapped around a person who has little power of movement.

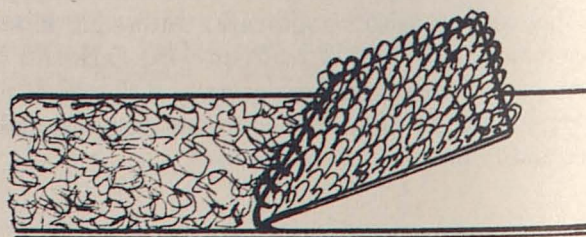


Fig. 2. Velcro is an easy-to-manage fastener.

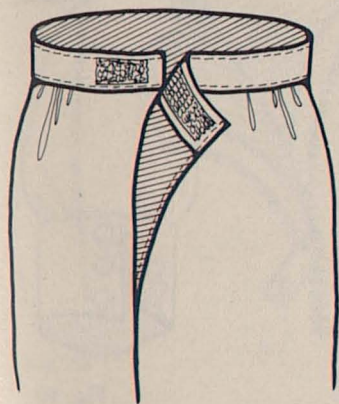


Fig. 3



Fig. 4

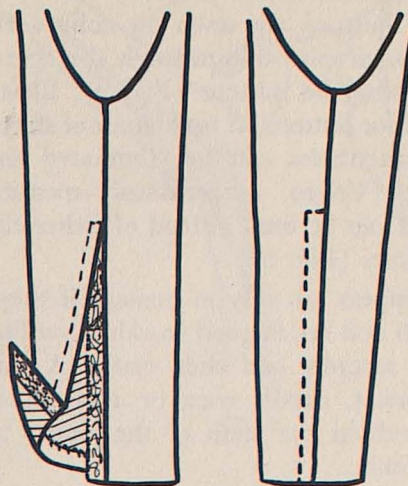


Fig. 5

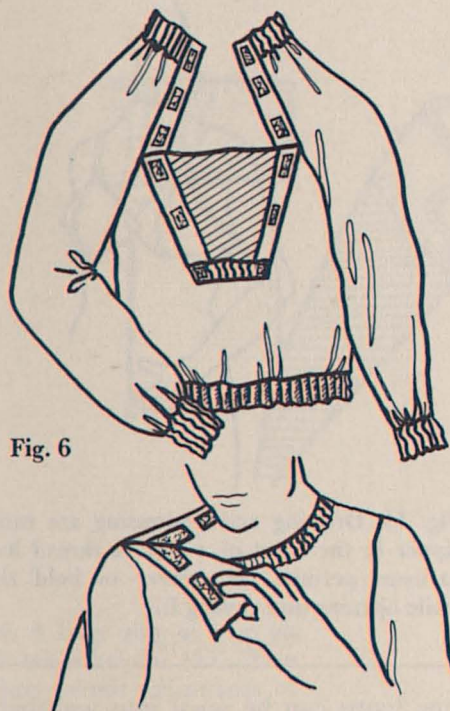


Fig. 6

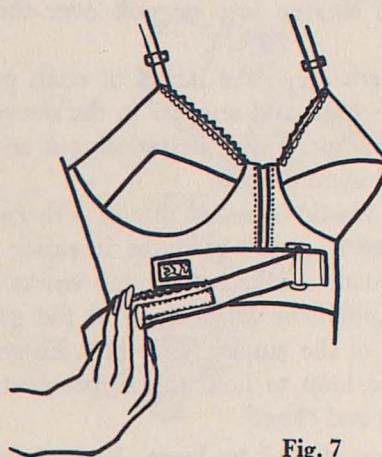


Fig. 7

Figs. 3-7. Some uses of Velcro: in waistbands (3); under buttonholes, with buttons sewn on top of the buttonholes (4); in pants seams (5); in the shoulder or raglan seams of collarless tops (6); and as a front fastener for bras (7).

still easier to grasp: For example, long shanks or small backing buttons may be used, or two buttons can be put together as one (Fig. 8).

If buttons are sewn on cuffs with elastic thread, the hand can slide through the opening without unfastening the buttons (Fig. 9). Elastic thread is also good for buttons on neckbands of shirts.

Buttonholes can be eliminated entirely by substituting Velcro, as previously mentioned. Or elastic loops can be used instead of either cloth loops or buttonholes (Fig. 10).

Zippers are easy to manage if they are within easy reach and are in good working condition. They should lock securely and slide easily. A commercial zipper lubricant, candle wax, or a graphite pencil may be rubbed on the teeth of the zipper to make it work smoothly.

Here are some other ideas:

Make an opening in the center front of a full slip and insert a zipper (Fig. 11). Similarly, a zipper can be inserted down one side of a T-shirt from base of neck to hem (Fig. 12).

Use separating zippers in the side seams of pants, in the center fronts of skirts, and in other garments that are difficult to step into or pull over the head (Fig. 13).

In the underarm area of a jacket or coat, put one zipper in the side seam and another in the sleeve seam (Fig. 14). If two zippers cause irritation, put an action pleat in the sleeve seam instead.

Fasten a large plastic or metal ring or a thread loop to the pull tab of a zipper to make it easier to use (Fig. 15). A ribbon or fake leather tab works also.

Sew a thread chain or fabric loop to the garment at the lower end of the zipper (Fig. 11). Fingers can be inserted in the loop to hold the zipper taut while it is being opened and closed.

Hooks and eyes should be large. Several types of trouser hooks are fastened to bars instead of eyes. Some bars have two or more slots for easy adjustment. If a single bar is used, sew on more than one to allow for expansion and comfort (Fig. 16).

Dressing Aids

Various dressing aids can be helpful to the person with a limited range of motion. Some can be purchased while others can be rather easily made.

Clips, pinch type clothes pins, or supporter fasteners can be fastened to a cord or stick and used to pull on clothing (Fig. 17).

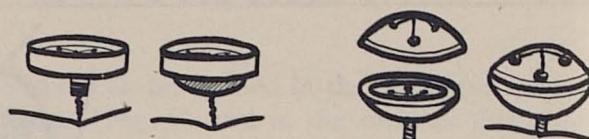


Fig. 8

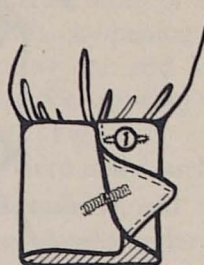


Fig. 9

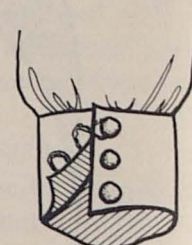


Fig. 10

Figs. 8-10. To make buttons easier to manage, choose those with long shanks or sew two buttons together (8); sew buttons on cuffs with elastic thread (9); use elastic loops instead of cloth loops or buttonholes (10).

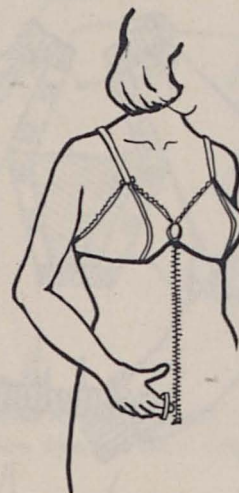


Fig. 11. Dressing and undressing are easier with a zipper in the front of a slip. A thread loop on the garment permits the wearer to hold zipper taut while opening and closing it.

Tape loops can be sewn into waistbands of underwear, trousers, and other garments that must be pulled up over the feet and legs. To use the loops, a dressing stick can be made by fastening a hook to one end of a wooden hanger (Fig. 18). A stationer's rubber tip can be put on the other end to ease a garment into place.

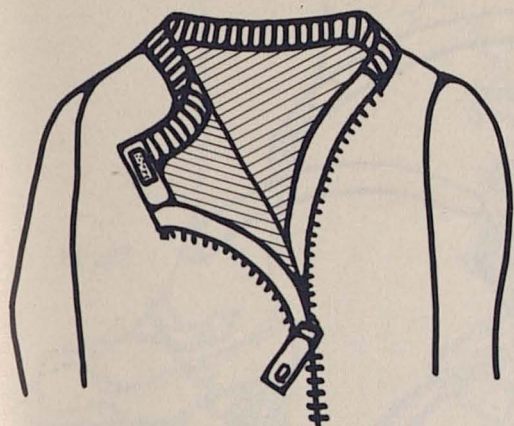


Fig. 12

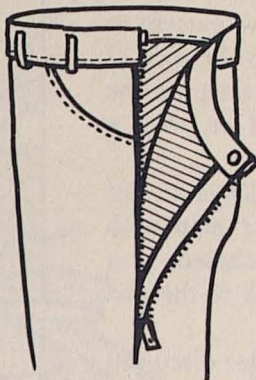


Fig. 13

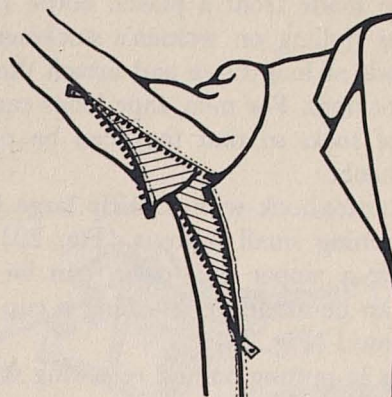


Fig. 14

Figs. 12-14. For convenience in dressing, zippers can be put in T-shirts (12); in the side seams of pants (13); and in the side seams and sleeve seams of jackets or coats (14).



Fig. 15

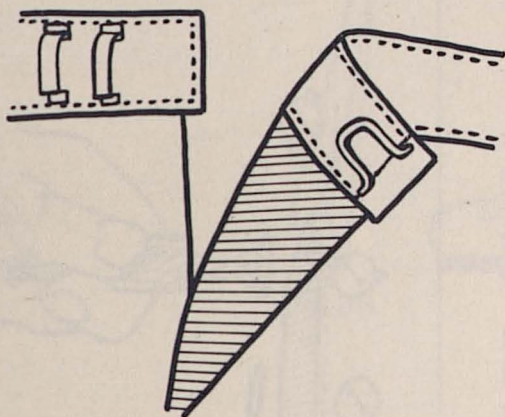


Fig. 16

Figs. 15-16. A large ring or loop on zipper pull tab is helpful (15). Two or more bars permit adjustment of trouser hooks (16).

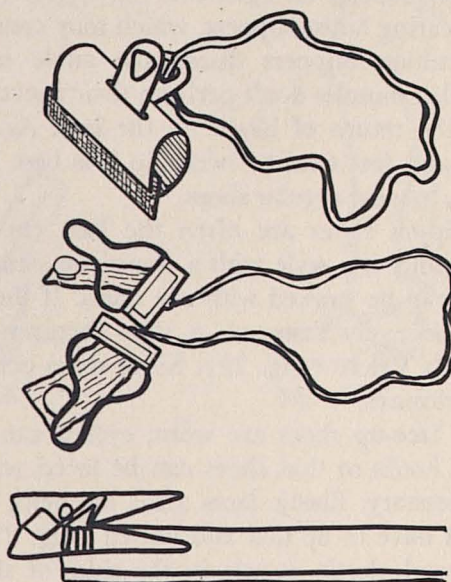


Fig. 17. Clothes can be pulled on with the aid of clips, supporter fasteners, or clothes pins attached to a cord or stick.

A stocking gutter is available commercially or one can be made from a plastic bottle (Fig. 19). As an aid for pulling on women's stockings, sew garters to the ends of long tapes and attach them to the tops of the stockings. For men, tape loops can be sewn on the tops of socks so that they can be pulled on with a stick hook.

A buttonhook with a fairly large handle is an aid in fastening small buttons (Fig. 20). For help with zippers, a zipper pull chain can be purchased or a pull can be made by attaching a cup hook to the end of a dowel (Fig. 21).

Aids in putting on and removing shoes are discussed in the following section.

Shoe Problems

Getting shoes on and off, fastening them, and unfastening them can become difficult chores when bending is painful or when fingers don't work well.

Often people with these problems get little exercise and their muscles become so weak that they largely depend on ligaments for support. Many resort to wearing house slippers, which may create additional difficulties. Slippers discourage ankle movement so that leg muscles don't perform their function in pumping the return of blood up the legs. As a result, the legs and feet tend to swell. So it is best, if at all possible, to wear regular shoes.

Slip-on styles are often the best choice. Another possibility is a style with a transverse strap and buckle that can be worked with one hand. If the buckle cannot be easily fastened, a shoe repairer can replace it with Velcro (Fig. 22). Some styles come with Velcro closures.

If lace-up shoes are worn, eyelets can be replaced with hooks so that shoes can be laced with one hand if necessary. Elastic laces are a big help, because they don't have to be tied and untied (Fig. 23).

Broad elastic gussets in the sides of shoes may be helpful (Fig. 24). Or a shoe repairer can put zippers in the tops or backs of shoes; rings can be fastened to the zipper tabs and the zippers can be opened and closed with a hook on a long stick (Fig. 25).

Difficulties in putting on shoes can often be eased with a long-handled shoe horn (Fig. 26A). A simple substitute is a piece of heavyweight vinyl, 2 feet by 9 inches. When set in the back of a shoe, it acts as a slide for slipping the foot into the shoe (Fig. 26B). Another aid is an "insert a foot" heelguard (Fig. 27). A boot jack is a help in pulling shoes off (Fig. 28).

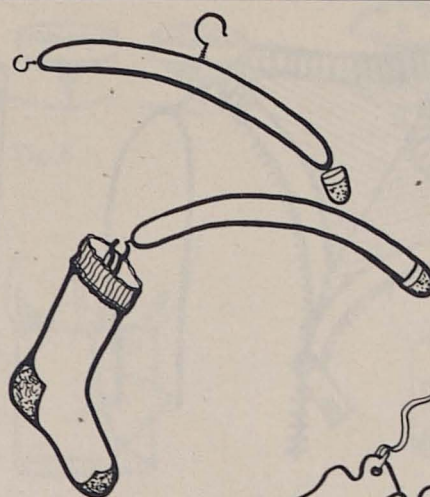


Fig. 18

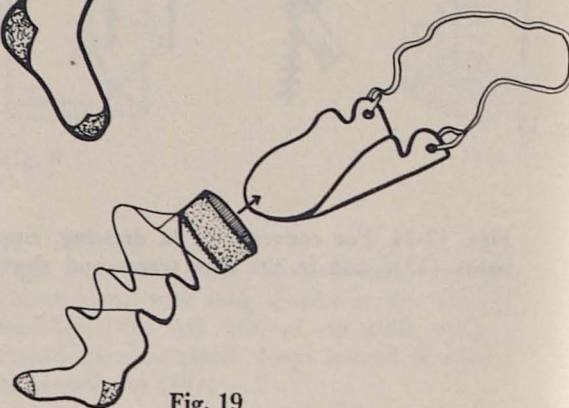


Fig. 19

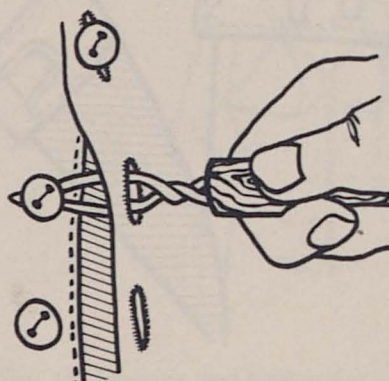


Fig. 20



Fig. 21

Figs. 18-21. Dressing stick made by fastening a hook to one end of a wooden hanger and a rubber tip to the other end (18); stocking gutter made from a plastic bottle (19); large-handled buttonhook (20); zipper pull consisting of a cup hook fastened to the end of a dowel (21).



Fig. 22

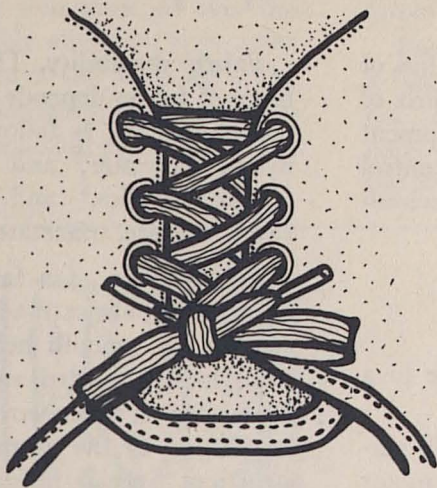


Fig. 23



Fig. 24

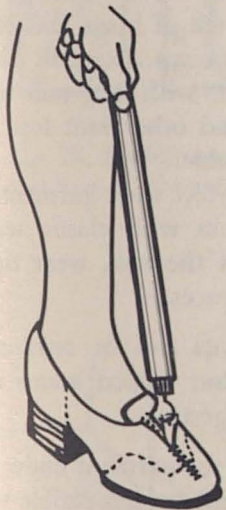


Fig. 25



Fig. 26A

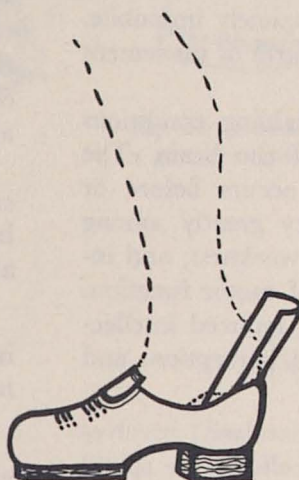


Fig. 26B

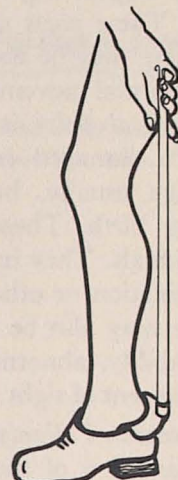


Fig. 27

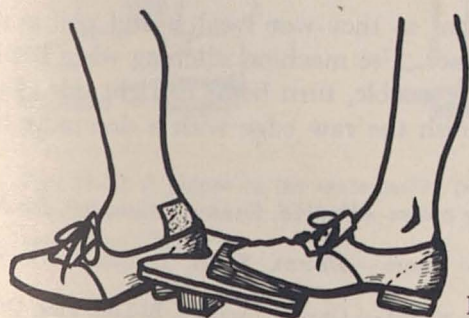


Fig. 28

Figs. 22-28. Some helps when shoes are hard to get on and off: Velcro tabs for fastening straps (22); elastic shoe laces (23); elastic gussets (24); zippers, which can be opened and closed by means of a hook on a long stick (25); a long-handled shoe horn (26A) or piece of heavyweight vinyl (26B); an "insert a foot" heelguard (27); a boot jack (28).

Adaptive Equipment

Some individuals suffer from total or partial loss of sensation or purposeful movement in various parts of the body. They must often use adaptive equipment such as braces and crutches to support and control the affected areas. At times they may need wheelchairs (page 11) as well as adaptive equipment.

Underlying Causes

The need for braces or crutches can be due to a number of conditions. Here is a partial list:

Injuries. Various types of injury may result in permanent disabilities such as paralysis, damage to motor coordination, and sensory loss.

Disabling conditions. A *stroke* damages the part of the brain controlling muscles that move the arm, hand, fingers, leg, foot, and toes on one side of the body. These parts may become completely immobile. Or there may be loss or reduced control of movement or abnormal movement.

Cerebral palsy is a group of disabling conditions due to damaged control centers of the brain. The damage usually, but not always, occurs before or during birth. These conditions vary greatly among individuals. They include paralysis, weakness, and incoordination or other abnormality of motor function. There may also be seizures, spasms, reduced intellectual ability, abnormal sensation and perception, and impairment of sight and hearing.

Diseases. *Poliomyelitis* (infantile paralysis) involves inflammation of the anterior horn cells of the spinal cord with resulting paralysis. The development of vaccines has greatly reduced its incidence.

Multiple sclerosis is a chronic, usually progressive disease. The symptoms and rate of progression vary greatly among individuals. Symptoms include loss of balance, paralysis, and loss of bowel or bladder control.

Braces

For individuals who wear braces, the difficulties due to physical limitations are compounded by the equipment itself. Not only is a brace bulky and awkward, but it causes constant friction and pressure on clothing. Consideration must be given to the durability and abrasion resistance of fabric as well as to design features that facilitate dressing and other activities.

Fabric durability. The relative strength and durability of fabric depends largely on fiber content. Various fibers rank as follows in strength: *high strength*, nylon,¹ polyester,² and linen; *medium strength*, silk, cotton, acrylics,³ and modacrylics;⁴ *low strength*, rayon, acetate, triacetate,⁵ and wool.

Construction of a fabric also affects strength and durability. Fabrics made from yarns that are tightly twisted and smooth hold up better than those made from loosely twisted yarns that can catch and pull. Durability of both woven and knitted fabrics should be judged by the evenness and closeness of the construction. Special finishes have a further effect. For example, durable press finishes do reduce the care needed but may make the fabric wear out sooner.

Clothing design. Garments should be loose-fitting, flexible, simple in design, and free of bows and other trim that might catch and cause an accident. Good choices include long tops or shirts with long tails worn over slacks or skirts. T-shirts and other knit tops are absorbent, flexible, and comfortable.

When leg braces are worn, select such garments as culottes, boxer shorts, and slacks with elastic waistbands and full legs. To protect the legs, wear tights and knee-high socks under the braces.

Special adaptations. Garments can be reinforced in various ways before holes and ripped seams and hems appear. Here are some suggestions:

Stitch a piece of fabric inside the garment under the areas of strain. The fabric should be compatible with the garment fabric in construction (woven or knitted) and kind of care needed. Iron-on patches or interfacings may be used as an alternative. Stitch around the edges for extra security. Double-stitch seams in areas of strain. Flatfell seam construction is especially durable (Fig. 29).

Secure hems so they won't catch and pull as they go over a brace. Use machine stitching when feasible. If fabric is reversible, turn hems to right side of garment and finish the raw edge with a decorative trim (Fig. 30).

¹ Some trade names — Antron, Cantreze, Cumuloft, Enkalure, Qiana.

² Some trade names — Dacron, Kodel, Trevira, Encron, Fortrel.

³ Some trade names — Creslan, Acrilan, Bi-Loft, Fina, Orlon, Quintess.

⁴ Some trade names — Elura, SEF, Verel.

⁵ Trade name — Arnel.

Ready-to-wear pants can be altered by inserting a zipper in the seam of the leg that must go over the brace (Fig. 31). Another possible alteration is to make an action pleat in the side seam of the pants leg at the bend of the knee (Fig. 32). Similarly, if a sleeve is to be worn over an arm brace, an action pleat can be put in the seam near the elbow.

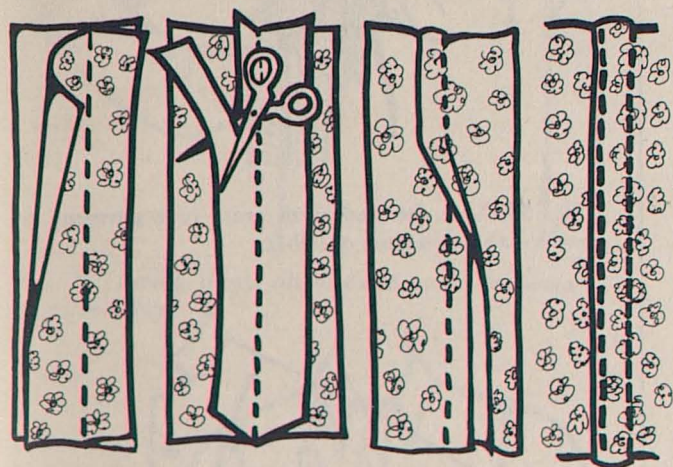


Fig. 29. Flatfell construction will strengthen seams that have to take extra strain.

A cover can be made to fit over the brace and minimize friction against clothing (Fig. 33).

Footwear. A person wearing a leg brace may need a larger shoe for the affected foot than for the other one, depending primarily on an individual's age at onset of disability. If onset occurs during childhood, the affected foot does not grow to normal size.

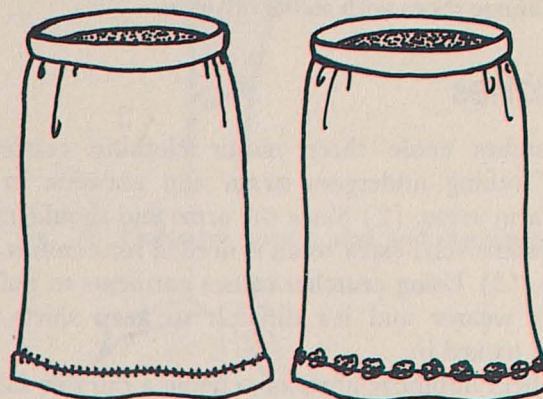


Fig. 30. A hem can be turned to the right side of a garment and finished with a decorative trim.

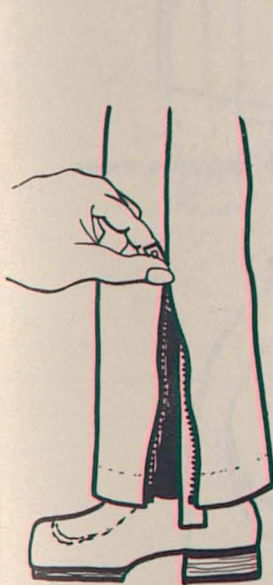


Fig. 31

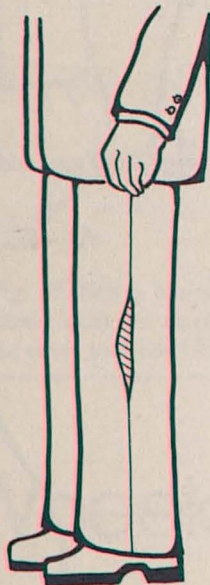


Fig. 32

Figs. 31-32. A zipper in the seam makes pants easier to pull on over a brace (31). An action pleat gives extra room (32).

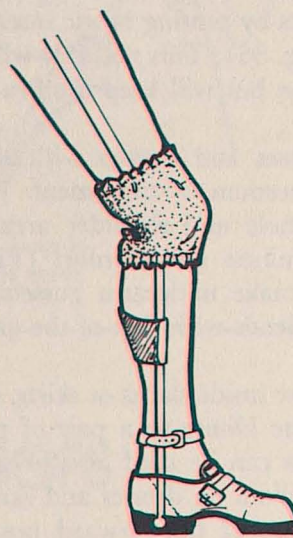


Fig. 33. A cover over the brace at the knee will protect clothing from rubbing.

When a larger shoe size is necessary for the foot with a brace, a possible solution is to fit that foot and pad the other shoe. Lace-up shoes are the best style. The tongue can be padded and the padding extended into the upper part of the shoe almost to the toe. An insole may be put in the shoe of the normal foot and sealed in place. It is not a good idea to try to improve fit by padding the heel of the shoe.

Some retailers may be willing to special order a pair of shoes in the two sizes needed. Another possibility is to exchange shoes with somebody else.

Crutches

Crutches cause three major clothing concerns: (1) Clothing undergoes strain and abrasion in the underarm areas. (2) Since the arms and shoulders are used extensively, extra room is needed for comfort and action. (3) Using crutches causes garments to pull up on the wearer and it's difficult to keep shirts and blouses tucked in.

To help minimize abrasion, choose a durable fabric, as discussed under "Braces." For additional protection, put a lining inside the underarm areas of a dress, blouse, or shirt (Fig. 34). Use a soft, absorbent fabric such as cotton flannel or stretch terry cloth. Reinforce underarm seams by double stitching or by stitching tape into the seam (Fig. 35). Raise armholes in sleeveless garments by putting fabric inserts in the underarm areas (Fig. 36). This not only will protect the skin from abrasion but will keep the bra or slip from showing.

Two-piece dresses and dresses with elastic at the waistline allow freedom of movement. Action pleats in the back armhole and shoulder area of clothing will increase roominess and comfort (Fig. 37). Another idea is to make underarm gussets of a fabric that matches or blends with that of the garment (Fig. 38).

To keep a blouse inside slacks or skirts, make a body shirt by sewing the blouse to a pair of panties (Fig. 39A). Velcro tabs can be used also (Fig. 39B). Remember that hemlines on dresses and skirts may hike up in back because of the forward posture. Adjust hemlines in ready-to-wear if possible. When making a skirt or dress, allow extra length so the hemline can be measured from the floor and made even all around while maintaining the hem depth required for design.

Coat sleeves must not be too bulky and should fit high under the arm. Individuals wearing splints on hands or arms will need width in their coat sleeves.

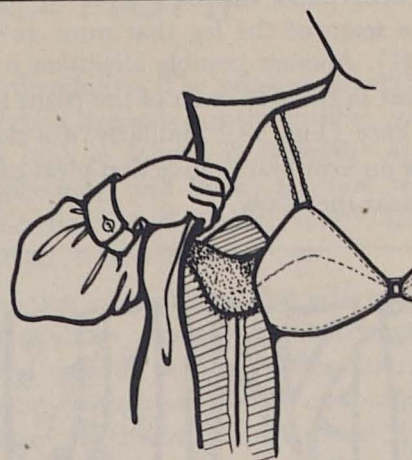


Fig. 34. Line the underarm areas of a garment to reduce abrasion from crutches.

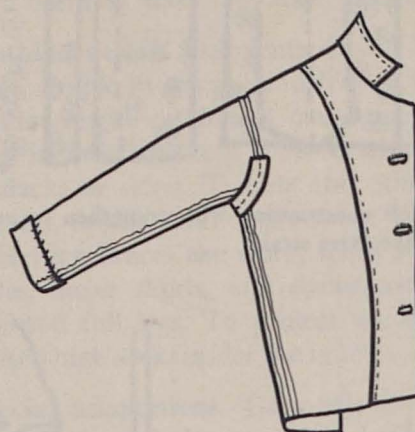


Fig. 35. Tape adds strength to underarm seams.

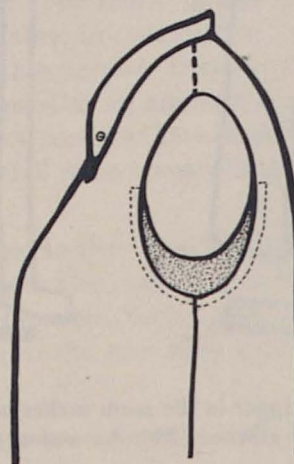


Fig. 36. Inserts in armholes of a sleeveless garment help to protect skin when crutches are used.



Fig. 37. Action pleats allow extra room for managing crutches.

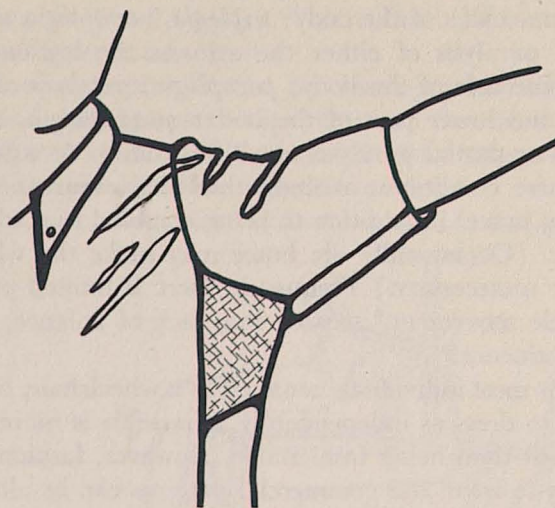
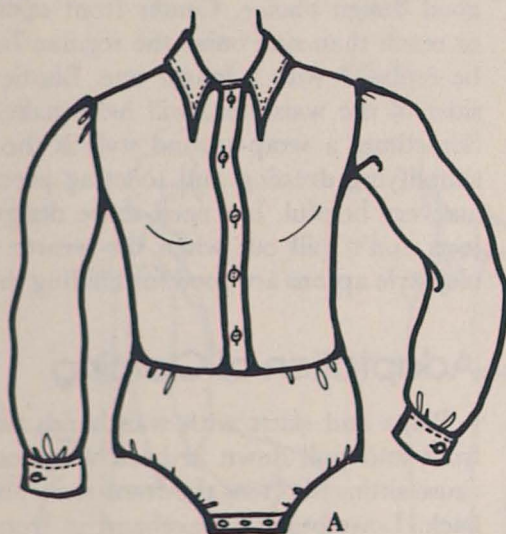
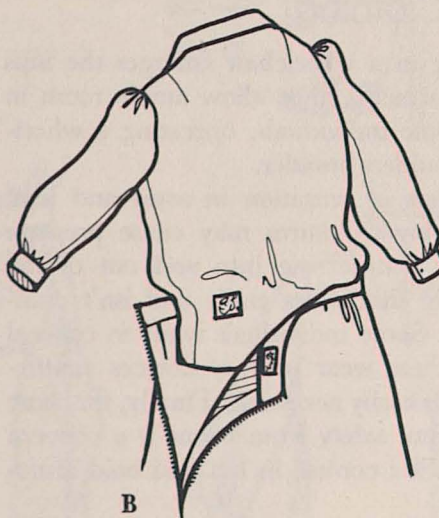


Fig. 38. Underarm gussets also add roominess.



A



B

Fig. 39. Sew a blouse to a pair of pants to keep it inside skirt or slacks (A). Velcro tabs will serve the same purpose (B).

Wheelchair Users

Many people must spend a large proportion of their lives in wheelchairs. Some are able to achieve partial or complete independence in dressing themselves, while others are totally dependent on others to dress them. The basic clothing problem facing the individual in a wheelchair is that clothes are designed for the standing figure. People who sit continuously need

different shaping in their clothing in order to be comfortable over long periods. They also need special design features that allow as much independence as possible in daily living activities.

People may be confined to a wheelchair for a number of reasons. Among them are four types of paralysis, each one of which may be due to a birth defect,

disease, or accident: *hemiplegia*, paralysis of one side (lateral half) of the body; *triplegia*, hemiplegia along with paralysis of either the arm or the leg on the opposite side of the body; *paraplegia*, paralysis of the legs and lower part of the body; *quadriplegia*, complete or partial paralysis of all four limbs. As a result of these conditions, an individual may wear an arm or leg brace¹ in addition to being confined to a wheelchair. (Occasionally the brace may make the wheelchair unnecessary.) Frequently there is limited or no muscle movement,² sensory loss, lack of balance, and incontinence.³

For most individuals confined to a wheelchair, being able to dress as independently as possible is more important than being fashionable. However, fashionable ready-to-wear and commercial patterns can be altered for comfortable fit and ease of dressing.

Selection of Clothing

Continual sitting in a wheelchair enlarges the hips and waistline so garments must allow ample room in these areas. For some individuals, operating a wheelchair makes the shoulders broader.

When there is loss of sensation in arms and legs, bulky fabrics and back closures may cause pressure and irritation. For transferring into and out of the wheelchair, clothing that slides easily and isn't cumbersome is needed. Some individuals want to conceal leg deformities; others wear urinary devices (catheters), which must be easily accessible. Finally, for those with loss of sensation, safety from burns is a concern as is body temperature control in hot and cold atmospheres.

Following are some suggestions to help meet the preceding needs:

Fabrics should be soft, stretchable, absorbent, slick enough for turning over in bed easily and transferring to and from the wheelchair on a sliding board, but not so slick that the person slides around while seated. They should also be lightweight enough to permit freedom in moving and operating the wheelchair. Inside seams and facings should be finished so they are not rough and irritating.

Fasteners should be large enough for easy use and should be conveniently located, preferably not in the back. Many individuals find buttons hard to manage and prefer Velcro, large snaps and hooks, and zippers. Styles without closures are ideal. A jacket with a two-

way zipper that opens from the bottom as well as the top is a good choice because the jacket can be released over the hips.

Special thought should be given to the design of sleeves. Raglan styles allow more freedom of movement than set-in designs, provided they are wide enough across the upper arm (Fig. 40). Sleeves that are too long or too full, especially at the wrist, are cumbersome and may get soiled from contact with the wheelchair or even be caught in the mechanism.

Shirts and blouses should have action back pleats or be cut full across the back. They should not be too long, or they will be bunched and uncomfortable when worn tucked in and will restrict motion when sat upon. If they aren't long enough, however, they pull out easily. Slits at side seams permit expansion over the hips (Fig. 41).

Moderately flared skirts that aren't too long are a good design choice. Center front openings are easier to reach than side ones; the regular 7-inch zipper can be replaced with a longer one. Elastic in the back or sides of the waistband will help make dressing easier. Sometimes a wrap-around style is the best choice for simplifying dressing and toileting procedures. Pockets are very helpful, but need to be designed so that objects don't spill out when the wearer is seated. Cobler style aprons are good for holding things.

Adaptation of Clothing

Pants and skirts with waistbands tend to bunch in front and pull down in back when one is seated because sitting shortens the front torso and lengthens the back. Lowering the waistband in front and raising it in back will take care of this problem (Fig. 42).

When a suit jacket, sport coat, or similar garment is buttoned, fabric rides up in front and forms wrinkles. At the back, it either lies in wrinkles on the chair seat or must be tucked under the figure. The lower edge of a jacket can be reshaped entirely to the needs of the wearer (Fig. 43). To keep a long coat or skirt from bunching under the wearer, cut away the back from the seat to the hem (Fig. 44).

For some, it may be easier to get into and out of a suit jacket if the jacket is split apart at center back and a zipper or Velcro is inserted. The jacket can be fastened in the front, slipped on, then fastened in the back. It's important to make sure the closure does not cause pressure and irritation against the wearer's back. Shirts and blouses can also be opened at the center back between the hem and back yoke or collar (Fig. 45). The opening can be fastened with Velcro tabs.

¹ Refer to "Adaptive Equipment," p. 8.

² Refer to "Limited Range of Motion," p. 2.

³ Refer to "Incontinence," p. 14.

Trousers and slacks can be adapted for easy removal by opening both side seams to about 10 inches below the waist so that either the front panel or back panel can be dropped (Fig. 46). Pieces of elastic should be attached to each side of the back and front panels at the waistband. When either front or back panel is dropped, the elastic on the other panel can

be extended around the waist and fastened, thereby holding the panel in place. Velcro can be substituted for the zipper in a fly front.

An open-front robe can be closed permanently or fastened with pressure tape between the hem and waistline (Fig. 47). This protects the wearer from cold air and at the same time maintains modesty.

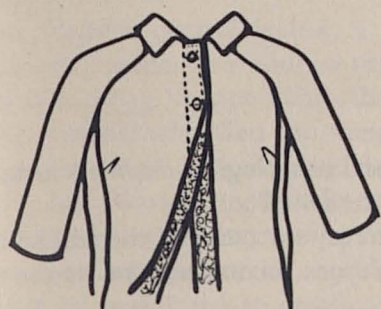


Fig. 40



Fig. 41

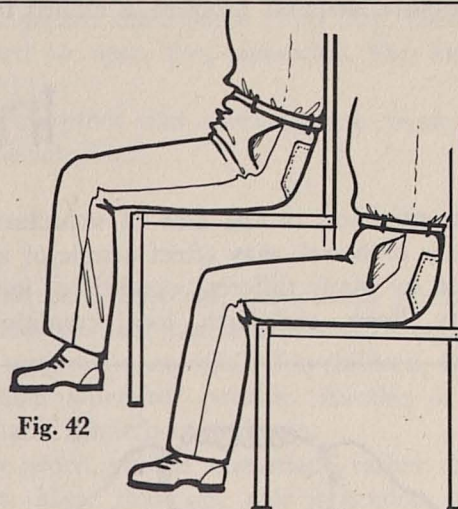


Fig. 42

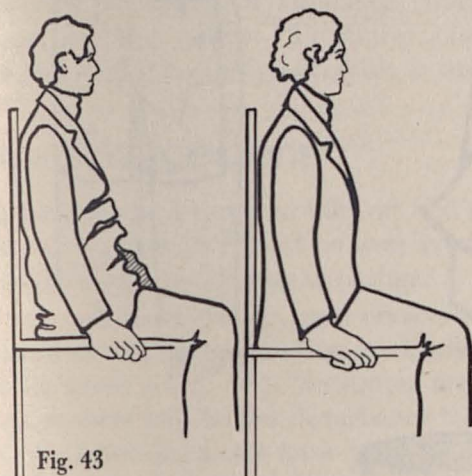


Fig. 43

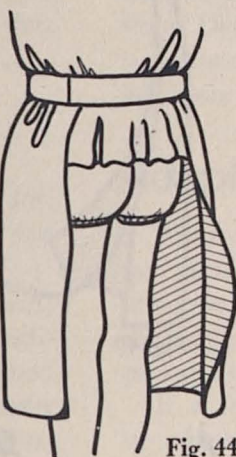


Fig. 44

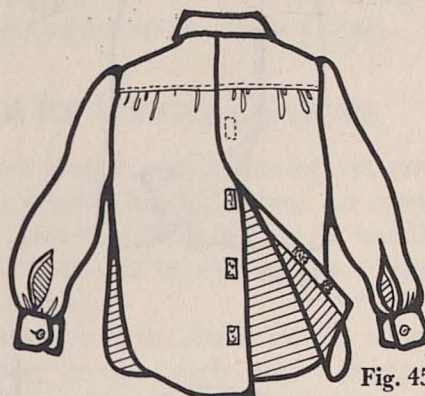


Fig. 45

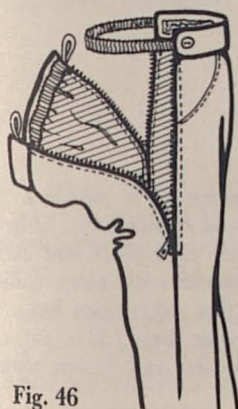


Fig. 46



Fig. 47

Figs. 40-47. Raglan sleeves allow room for operating a wheelchair (40); slits in side seams of shirts, blouses, and jackets make sitting more comfortable (41). Some other suggestions for wheelchair users: Lower waistband of pants or skirt in front and raise it in back (42); reshape lower edge of a jacket (43); cut away the back of a skirt (44); slit a jacket, shirt, or blouse up the back and insert Velcro or zipper (45); open side seams of pants about 10 inches, insert zippers or Velcro, and add elastic to each panel (46); use Velcro tabs to close robes (47).

Foot Problems

Prolonged sitting in a wheelchair may cause swollen feet. Sometimes a wider pair of shoes can be worn in the evening than in the morning to ease pressure on the foot. V-shaped elastic gussets in the sides of the shoes may increase their comfort. Booties of a soft material may be advisable for swollen legs.

Another frequent problem is chilled feet, resulting

from lack of exercise. To combat the problem, avoid tight-fitting socks and shoes; they impede circulation and cut off the insulating layer of warm air that is needed.

Select hosiery of wool or wool blends; wool yarns are thick and help to hold and trap body heat. Nylon hose are probably the poorest choice because they are nonabsorbent and provide little insulation. Thermo-insulated socks may be bought or made.

Incontinence

Incontinence, or the lack of voluntary control of bladder or bowel, may affect people of all ages. It is caused by many different conditions, including temporary illness, childbirth, local conditions affecting

bladder or womb, and neurological disorders including injury or disease of the spinal cord.

Because of the secrecy surrounding the normal body functions of elimination, an incontinent person feels



Fig. 48



Fig. 49



Fig. 50

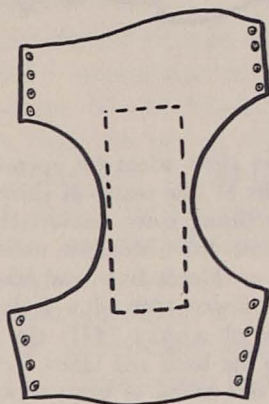


Fig. 51

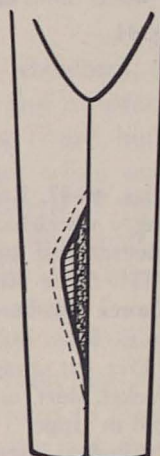


Fig. 52



Fig. 53

Figs. 48-53. When incontinence is a problem, a wrap-around garment is a good choice (48). Other suggestions: Cut out the back of a skirt and add an extra panel (49); line pants with terry cloth (50); adapt panties to open flat (51); open inseam of pants for managing catheter bag (52); put a drop crotch in women's panties and fasten with Velcro tabs (53).

embarrassment and shame. Those responsible for the care of an incontinent person are faced with many unpleasant tasks such as washing clothing and bedding and cleaning furniture and floors. For those reasons, the problem becomes a very emotional as well as physical one.

Very often the incontinence can be stopped or controlled with medical supervision, depending on the cause. If the condition is uncontrollable, ways must be found to live with it.

When bladder control is lost, a catheter can be placed in the bladder to withdraw urine. The catheter empties into a bag strapped onto the leg and can be worn for long periods. Men can sometimes use an external condom-type of collecting device that drains into a leg bag. Women may prefer to wear absorbent pads and protective (waterproof) pants.

When fecal incontinence is a problem, surgery can sometimes be performed to create an artificial opening (stoma) for removing the contents of the bowel through the abdominal wall. This operation is called an ileostomy or colostomy according to the location of the opening. A collection appliance (bag) must be managed by the patient. Protective clothing that makes the appliance easily accessible is necessary.

General Suggestions

Clothing should be easy to take off and to care for. Unnecessary garments should be avoided as they can be just that many more things to change.

Wrap-around designs are good choices for women; the garments can be separated in back when the individual is seated (Fig. 48). Separates are also good choices, as there will be less disturbance to the wearer if only the lower garments have to be removed. Garments that open all the way down the front don't have to be pulled over the head if they become soiled.

Cut out the backs of skirts and dresses below the level of the chair seat for those who sit a great deal. A separate panel can be attached so that it can be lifted out of the way when the wearer is sitting and will cover the back when she is standing (Fig. 49). Insert zippers in both side seams of pants from waist to hip for ease in dressing and undressing.

Line underpants and backs of skirts or pants with terry cloth for greater absorbency (Fig. 50). Panties can be adapted to open flat, somewhat like fitted diapers (Fig. 51).

Protective waterproof seat coverings are necessary for those in wheelchairs.

Footwear

Footwear can be a problem, particularly when it is made of leather, which can be ruined by frequent soaking. One suggestion, especially for children, is to go without shoes whenever possible. Another is to wear soft washable fabric boots at home.

If shoes are worn, choose man-made rather than leather uppers. More than one pair is needed at a time. Devise a covering — possibly a piece of plastic — around the opening of a shoe. Air-dry wet shoes and store them in an open space, not in a closet.

Adaptations for Urinary Devices

When a catheter is used, wide pants legs are necessary so that there is room for the leg bag. An opening is needed in the inseam of the pants leg for handling the bag (Fig. 52). It can be closed with a zipper, pressure tape, or snaps.

If a female urinal is used, slacks can be adapted by putting a zipper in the crotch seam. Underpants can be adapted by making a drop crotch fastened in place with snaps or Velcro (Fig. 53).

Figure Irregularities

Everyone's figure deviates in some way from what society determines to be ideal. When the deviation is great, it may affect the individual's self-image so much that he or she does not feel at ease when participating in the usual activities of life. Some of this feeling may stem from not being able to find well-fitting, fashionable clothing.

Other disabilities discussed in this publication may involve figure irregularities. Specific suggestions can be found under the appropriate topic. This section contains clothing suggestions for individuals having exaggerated irregularities of the spine due to injury or other causes. Such irregularities include lordosis (inward curvature of the spine, Fig. 54), kyphosis

(outward curvature, Fig. 55), and scoliosis (lateral curvature, Fig. 56).

Whatever the type of irregularity, clothing can be selected to help create the illusion of a balanced figure. Attention can be drawn away from the figure irregularity by emphasizing another area of the garment. One can learn to alter patterns and sew clothing to meet individual needs, or one can select ready-to-wear garments that have good design features and that can be altered for good fit. The following suggestions are for women's clothing but can be adapted for menswear.

Lordosis

Inward curvature of the spine at the lower back causes a hollow at the back waist. The upper back may be rounded and the derriere raised, depending on the degree of the curvature. Lordosis is commonly called swayback when the curvature is not extreme.

Special problems are created by fitted dresses and by pants and skirts that fit closely over the hips. The back of the garment wrinkles around the waistline (Fig. 57); skirts hike up in back and hang unevenly; side seams swing toward the back.

A good choice is a two-piece outfit with a long top that hangs straight instead of being fitted at the waist. Another good choice is a skirt with gathers or unstitched pleats at the waist.

If a dress has a waistline seam, the bodice should have fullness from gathers or open tucks at the waistline. A straight-cut dress with little or no shaping at the waist will hide the hollow area of the back. Another possibility is a full straight dress with a belted waistline.

Alter ready-to-wear dresses with waistline seams and skirts and pants with waistbands to remove wrinkles in back (Fig. 58). Rip stitching across the back waistline seam or waistband from side seam to side seam. Raise the back skirt or pants until the garment lies flat against the figure, wrinkle-free. Mark the new waistline location on the garment with pins or chalk. Trim away excess fabric. Restitch bodice and skirt together or replace waistband of skirt or pants. A commercial pattern can be altered by taking a tuck in the pattern or relocating the waistline seam (Fig. 59).

Kyphosis

Kyphosis or outward curvature of the spine, often referred to as humpback, is less common than it once was. It still occurs, however, and presents a problem

in getting clothing to fit properly. Although kyphosis may affect any part of the spine, it is usually confined to the high back.

A pronounced outward curvature causes hems on dresses, jackets, and overblouses to hike up in back. The chest tends to be hollow from this permanently stooped posture, so garments may be too long at center front if purchased with the desired back length.

Hemlines on ready-to-wear jackets and overblouses will have to be shortened in front and tapered to nothing at center back (Fig. 60). The same principle should be applied to straightening skirt hems.

If a dress has a waistline seam, the bodice can be shortened in center front and tapered to the greatest possible length at center back (Fig. 61). After this is done, it is possible that the skirt won't require altering.

Designs with fullness in the front chest area help to balance the curve of the back and improve appearance from the side. For example, a soft bow tie, ruffled front opening, or cowl drape neckline (in the front only) might be chosen.

Stretchy fabrics will be comfortable and accommodate the back curvature to some extent. If the curve isn't severe, alterations may not be needed.

Avoid fabrics with definite directional designs. Solid colors and all-over muted designs will make the back curvature less obvious.

Scoliosis

With scoliosis (lateral curvature of the spine), one side of the back is more prominent than the other. The shoulder and hip may be higher on that side, but not necessarily. The trunk of the body is shortened and there is a loss of waistline. A Milwaukee brace may be worn by pre-teen and early-teen-age girls with scoliosis to straighten the spine while the bones are still flexible (Fig. 62).

Garments may need to be fitted for both right and left sides of an individual with scoliosis. When a Milwaukee brace or other brace is worn, it must be considered in fitting clothing.

Clothing when no brace is worn. In general, avoid garments that fit close to the body in the bodice area. Straight-cut overblouses, sweaters, and jackets provide extra length and help to conceal the curve of the spine and differences in hip shaping. Blouson designs are good choices. Designs with back fullness such as a back gathered to a yoke or a center back pleat provide the extra room that is needed when one side of the back is fuller and more rounded than the other.

A low-cut neckline is not a good choice because the



Fig. 54



Fig. 55

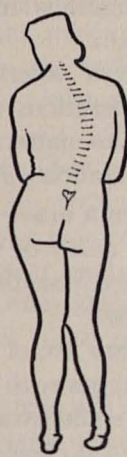


Fig. 56



Fig. 57

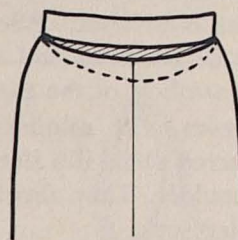


Fig. 58

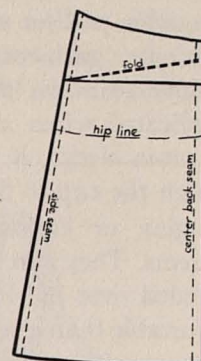


Fig. 59

Figs. 54-56. Three types of spinal curvature: Lordosis, or inward curvature (54); kyphosis, or outward curvature (55); scoliosis, or lateral curvature (56).

Figs. 57-59. Lordosis causes close-fitting garments to wrinkle around waistline (57). For better fit, raise back of ready-made skirt until it is wrinkle-free (58); take tuck in skirt pattern (59).



Fig. 60

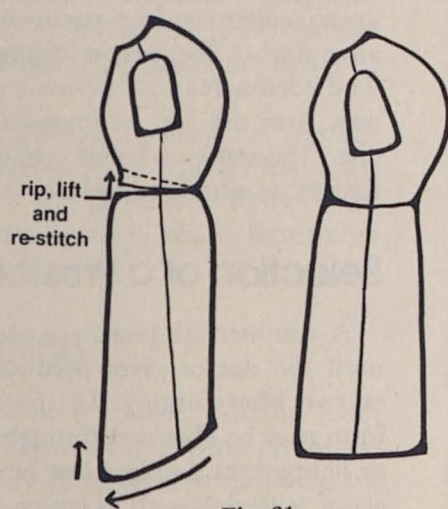


Fig. 61

Figs. 60-61. For the kyphotic figure, hemlines of skirts and overblouses should be shortened in front (60). The shortening can be done on the bodice of a dress with waistline seam (61).



Fig. 62. A Milwaukee brace may correct scoliosis in young girls.

garment will tend to slip off the lower shoulder. Other poor choices are fabrics with definite horizontal designs such as stripes and plaids. They will emphasize the curvature.

Sometimes a pad can be made and worn to partly fill out the hollowed side of the back. If there is a difference in height of shoulders but it isn't great, use a shoulder pad on the lower side of the figure.

On some garments it may be best to make a deeper shoulder seam on the lower side. This can become complicated when a collar is involved. Also if there is a set-in sleeve, it must be removed and shortened through the cap to fit the armhole of the garment.

Raglan or kimono sleeves may minimize fitting problems. They can be altered easily if a deeper seam is needed over the low shoulder. They also feel more comfortable than a set-in sleeve.

Skirts and pants with elastic waists will be more comfortable and easier to alter than those with waistbands; usually length can be adjusted at the hem. If skirts and pants do have waistbands, they should be

altered on the low side of the figure. The waistline seam can be lowered as was described under lordosis (Fig. 58), but on the side of the figure including some of the back and front instead of at center back. If this side of the figure is smaller through the hips, make a deeper side seam.

Needed pattern alterations are quite extensive. Basically the alterations suggested for ready-to-wear can be applied to patterns but the seamstress needs good pattern alteration skills.

Clothing when a brace is worn. Since a Milwaukee brace covers so much of the torso, garments must fit loosely. Elasticized waistlines and waistlines with little shaping work best.

Neckline designs are of particular concern. Stretchy turtle necks, T-shirts with stretch neck bands, convertible collars that stand away from the neck, and collarless designs are good choices.

Fabrics must have good abrasion resistance to withstand rubbing against the brace. Stretchy fabrics will make dressing easier.

Mastectomies

The woman who has had a mastectomy is first faced with choosing a breast prosthesis (form to replace the missing breast), then with choosing clothing. The prosthesis should be comfortable, fit well, and look natural. Many improvements have been made through the years, but finding the right form for each woman takes psychological preparation and time. As one woman said, "It's such a part of you! If it doesn't feel right, you won't feel comfortable and at ease."

Mastectomies fall into three categories: *Radical*, removal of the breast lymph glands and pectoral muscles. It leaves a vertical scar. *Modified radical*, removal of the breast and axillary lymph nodes, leaving a horizontal scar. *Simple*, removal of the breast tissue only. Location and type of scar can vary according to surgery techniques.

The position of the scar creates specific clothing concerns and not just from the standpoint of concealment. Comfort must also be considered because of the tenderness of scarred tissue. For example, if the scar is under the breast line certain bras with bands may be very uncomfortable because of tightness and rubbing.

Other possible problems are edema or swelling of the arm (or arms in case of a double mastectomy),

limited use of the affected arm(s), difficulty in raising arms, tenderness in a particular area, and loss of balance due to the weight change from breast removal. The edema may be permanent or vary from day to day. Arm use can be improved through proper exercise. The sense of balance may be regained when the correct prosthesis is in place.

Selection of a Prosthesis

A commercial prosthesis should not be purchased until the doctor gives permission — usually a month or two after surgery. In the meantime a temporary form may be obtained through "Reach to Recovery,"¹ or lightweight padding can be improvised with a variety of materials such as cotton balls, polyester fiber-fill, lamb's wool, or old nylon hose. The important thing is that it be nonirritating. These lightweight materials tend to "ride up" and are too light for adequate balance so are usually not satisfactory for permanent use.

Breast prostheses are available in many brands and

¹ "Reach to Recovery" is the name chosen by local groups of volunteers who have had mastectomies. Individual members are often asked by doctors to counsel women who have recently undergone this surgery. Members can be reached through the American Cancer Society county office.

styles within a wide price range. Choice will be determined by extent of surgery. After a radical mastectomy, a prosthesis may need an extra "tail" of foam to fit into cavities in the chest wall or axillary area (Fig. 63). A modified radical operation calls for a prosthesis that will replace the missing breast(s) and possibly fit into the cavity in the axillary area(s). A simple mastectomy requires a prosthesis to replace the missing breast (Fig. 64).

A permanent prosthesis should match the weight of the missing breast in order to retain body balance. The most commonly used type is filled with glycerine and has a foam backing. Newer, more expensive ones are filled with silicone gel. Other kinds are filled with air, weighted or unweighted foam rubber, or polyester.

A liquid- or gel-filled prosthesis will shift with movements of the body and give a natural appearance. Care must be taken not to puncture it with pins. Air-filled prostheses are usually too light in weight for permanent use. Also, the air may escape. They are usually worn in temporary situations such as swimming. Prostheses filled with foam rubber or polyester are often satisfactory for women who were small-busted originally and for whom weight replacement isn't a major factor.

Most of the forms come with nylon covers. All covers are washable and dry fairly quickly. Many forms are designed to be worn in a special mastectomy bra with pockets (Fig. 65); the silicone prosthesis can be worn directly against the skin; others are designed for use with regular bras.

Some women find it difficult to keep the bustline level after a single mastectomy. It helps to lower the bra strap on the side of the prosthesis. Remove the strap adjuster and sew the strap in place. Remember to check in a mirror after dressing.

Selection of Clothing

Once a prosthesis has been chosen, clothing selection can be considered. Choices will depend on the extent of surgery and one's feelings about concealing the area where surgery has been performed. Some women are more self-conscious immediately after a mastectomy than they are later, when they have learned to live with the changes in their figures.

Many garments already owned can be worn. They should bring the same amount of enjoyment as before surgery. Whether one is choosing items from an existing wardrobe or is buying new clothes, one should consider the following suggestions for selecting and

altering clothing so that it will be attractive and comfortable immediately after a mastectomy and at any later time.

Fabrics. Soft, smooth, absorbent fabrics should be chosen for wear directly over the area of scarred, tender skin. Cotton and cotton blends, rayon, some wools, polyester, and some silks are good choices. Nylon fabrics can be abrasive. They as well as other synthetics are nonabsorbent. In hot weather such fabrics tend to hold moisture next to the skin, making the wearer feel clammy or sticky.

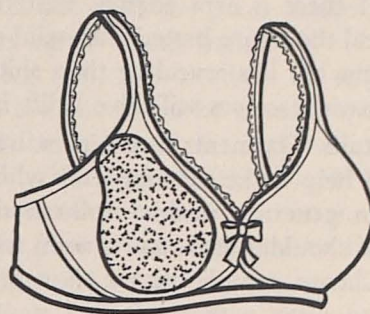


Fig. 63. After a radical mastectomy, a prosthesis may need a foam "tail" to fill in cavities.

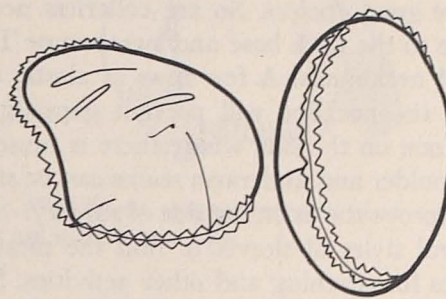


Fig. 64. A simple mastectomy requires a prosthesis that will replace the missing breast.

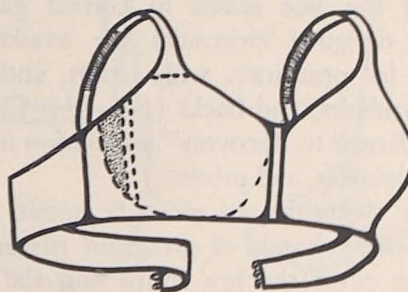


Fig. 65. Special mastectomy bras have pockets for prostheses.

Select opaque fabrics, at least until the scar tissue has healed. Fabrics should be lightweight, so that they won't cause pressure on the shoulders and chest. At the same time, they should have enough body to stand away from the figure, not cling. If a clingy fabric is preferred in a particular garment, use gathers or tucks to prevent too close a fit. An extra layer of fabric can be fitted and sewn into the shoulder and underarm areas of blouses and dresses to keep lightweight fabric from fitting too closely to the sunken area left by surgery (Fig. 66).

Consider knit fabrics because of their flexibility, particularly if there is arm edema. Patterned fabrics tend to conceal the figure better than solid colors. Dull surface textures are less revealing than shiny ones.

Wearing favorite colors will give a lift in spirits.

Design details. Garments that zip or button down the front will help make dressing easy while reaching is difficult. In general, consider full-cut dresses that hang from the shoulder and can be worn with or without a belt. Choose straight rather than fitted jackets and blouses to wear with skirts and pants. Blouson designs are a good choice.

Make sure that necklines are not overly revealing. Blouses and dresses with collars that fit closely around the neck are good choices. So are collarless necklines that fit close to the neck base and sweaters or T-shirts with knitted neckbands. A few rows of elastic thread sewn inside the neckline will prevent gapping. This should be done on the side where there is muscle imbalance. Shoulder and underarm seams can be stitched deeper to improve the fit on the side of surgery.

Try several styles of sleeves to find the most comfortable ones for reaching and other activities. Sleeveless garments need not be avoided if they fit closely around the arm. Placing a piece of press-on interfacing under the arm inside the garment will add body to the fabric and will keep it from clinging too closely (Fig. 67). If necessary, a sleeveless garment can be taken in at the side seams to correct gapping.

Specially designed swimsuits are available, featuring cups for prostheses, wide straps, and built-up necklines, armholes, and backs (Fig. 68). Check with your local "Reach to Recovery" association for recommendations, sources, and prices.

A regular swimsuit can often be made wearable simply by sewing bands of grosgrain ribbon behind the straps to cover the bra straps and the incision. Straps on evening wear can be widened in the same way.

One can buy specially designed bras, with camisole necklines, high underarm structure, and pockets for

prostheses (Fig. 65). If a regular bra is worn, it should be well made. A style with an undercup band will not ride up. A pocket can be easily made for the prosthesis on the inside of the bra cup. Leave the upper edge and part of the side open for easy insertion of the prosthesis. Snaps can be sewn on the prosthesis to hold it in place. If it is filled with liquid or gel, the safest thing would be to sew the snaps on the cover of the prosthesis. The upper edge of the bra

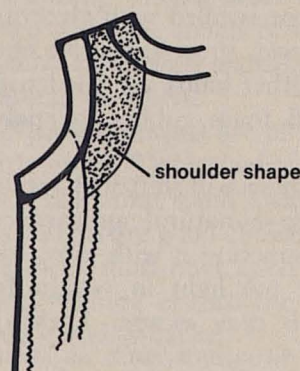


Fig. 66

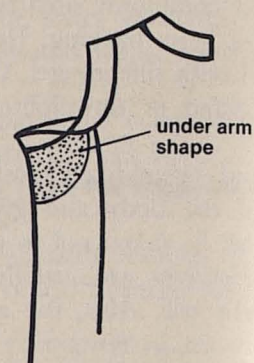


Fig. 67

Figs. 66-67. To keep a garment from clinging, add an extra layer of fabric to shoulder and underarm areas (66); put press-on interfacing in underarm areas of a sleeveless garment (67).



Fig. 68. Swimsuits have been specially designed for women who have had mastectomies.

cup can be closed by using a strip of tape with snaps. "Reach to Recovery" has patterns for cups, or they can be designed and made at home.

Select nightgowns with wide shoulder straps and high necklines. A prosthesis pocket can be sewn into the nightgown or a sleep bra can be worn.

Arm and Leg Casts

Wearing an arm or leg cast is a temporary disability but does require that clothing be adapted to fit over the cast. It is also necessary to find ways of dressing and undressing, particularly when the cast is on the arm. A secondary concern is protecting the cast from moisture and soil.

Arm Casts

Choose blouses or shirts of stretchy knit fabric that can be pulled over the arm cast and worn in normal fashion or wrapped and fastened around the cast without putting the arm through the sleeve. They may need to be several sizes bigger than usual. Sweaters, knit T-shirts, or sweat shirts can be worn the same way. Tent or mu-mu style dresses are also good choices.

A sleeve can be opened temporarily in a better garment. It will be more comfortable if an unobtrusive piece of knit fabric, compatible with the garment fabric in care requirements, is laid into the seam, making the sleeve large enough to accommodate the cast. After the arm has healed, the extra fabric can be removed and the original seam replaced.

In cold weather, it may be difficult to put on a coat. Something warm like a sweater can be worn underneath and the coat sleeve brought over the shoulder and arm. A cape makes an excellent wrap. If the cast covers part of the hand and a regular mitten will not fit, a mitten can be made from an old sweater (Fig. 69).

Leg Casts

If pants are to be worn over the cast, they should be of stretchy knit fabrics and have full-cut legs. Jeans may have to be forgotten until the leg heals. Jogger's pants are a possibility if they have a zipper or a stretchy band at the ankles.

It may be necessary to open a seam in the pants leg and insert a zipper as long as the cast. The zipper can be put in either the inseam or side seam of the pants, wherever it is easiest to open and close.

Women and girls can wear full-cut skirts, but

too much fullness may make it difficult to manage crutches.

Select underwear with legs that can be pulled over the cast. Full-cut styles are good choices, as are those with stretchy knit or elastic bands.

With a leg cast, toes need to be covered in cold weather. A toe cover can be made from the toe of a sock. It can be anchored in place with elastic or the ribbing from the sock (Fig. 70). Wool socks are warmer than cotton or synthetic ones. A white sock over a white cast is less conspicuous than a colored

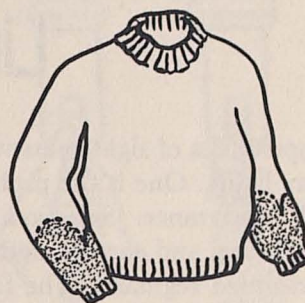


Fig. 69. Mittens can be made out of an old sweater for use with an arm cast.

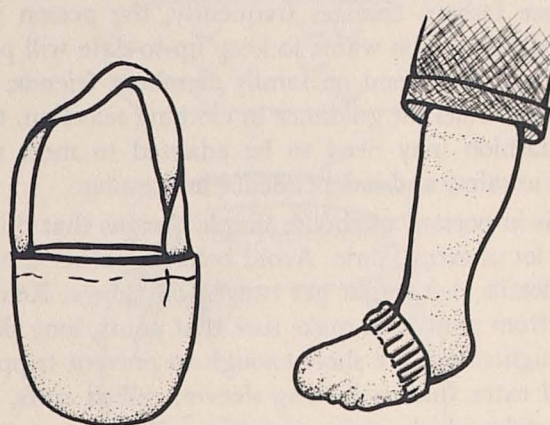


Fig. 70. A toe cover can be fashioned from a sock when a leg cast is worn.

one, but a colored sock might be fun, especially if a decorative touch is added for special occasions.

Care of Cast

Perhaps each person who has had to wear a cast has invented ways to live with it. As a start, here are a few suggestions for protecting the cast from moisture and soil:

When taking a shower, put washcloths around the upper and lower edges of the cast (Fig. 71). Hold them in place with rubber bands. Completely cover the arm or leg and the cast with a plastic bag. Tie it in place around the opening. Someone will have to help in the case of a broken arm.

For outdoor wear in cold, wet weather, a plastic bag can be used to insulate and weatherproof a limb with a cast. The bags cost so little that they can be thrown away after one use.

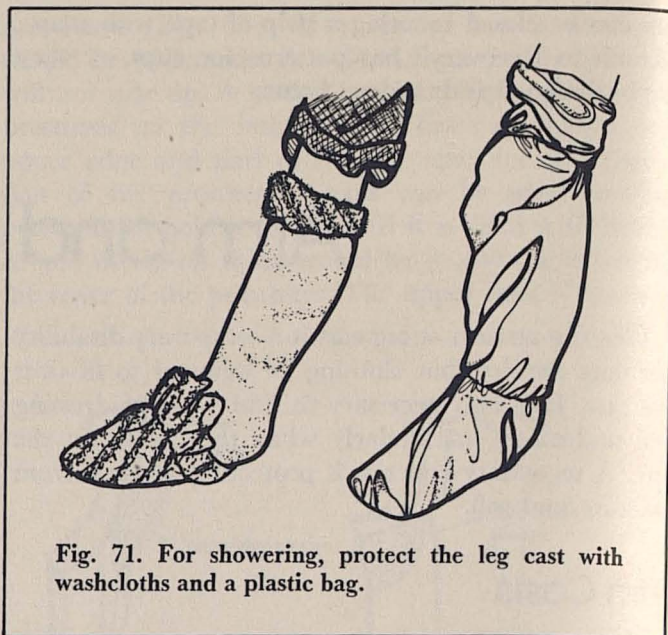


Fig. 71. For showering, protect the leg cast with washcloths and a plastic bag.

Limited Vision

Partial or complete loss of sight presents many challenges in everyday living. One is the problem of keeping up personal appearance. Selection of clothing, dressing and undressing, and care of clothing are tasks that must be performed regularly. The following suggestions from those who have lost their sight will make it easy for the blind to dress attractively.

Design Details

Since fashion changes frequently, the person with limited vision who wants to keep up-to-date will probably need to depend on family members, friends, and store personnel for guidance in clothing selection. Current fashion may need to be adapted to meet such needs as safety and independence in dressing.

It is important to choose simple designs that do not use a lot of extra fabric. Avoid belts and other decorative details that might get caught on things. Remove cuffs from pants and make sure that pants, long skirts, and nightgowns are short enough to prevent tripping. Avoid extra fullness in long sleeves, ruffled cuffs, and other styles which might catch fire easily.

Select fasteners that are easy to manipulate — for example, zippers, large snaps, large hooks, or a pressure tape fastener such as Velcro. If the fasteners on ready-to-wear are hard to use, they should be replaced.

Safety

As already mentioned, safety from fire, tripping, and catching clothing on various objects should be kept in mind when one is choosing design details. Here are some further safety suggestions:

Closely woven or knitted fabrics having low nap surfaces are preferable to fabrics with loose, loopy textures. Nightwear and robes should be made of flame-resistant fabrics, which can be purchased by the yard. Ready-made flame-resistant nightwear for children is easily available.

For outerwear, choose colors that can be seen from a distance. Bright yellow is an especially good choice because it is readily visible in all kinds of weather. Strips of reflector tape can be applied to some articles.

Coordination of Garments

One difficulty for those with limited or no vision is identifying the colors of different garments and combining them into a costume. Someone may need to analyze the blind person's most becoming colors, help with purchases, and mark outfits that harmonize.

The use of plain colors for slacks or skirts will forestall the possibility of putting two clashing patterned fabrics together. Color choice can be limited to one or two color families that go well together, plus black

and white, so garments will harmonize no matter which ones are worn together. Choosing new colors for different seasons or years will give variety. Strong value contrasts between articles of clothing may help those with some vision to identify clothing (Fig. 72).

Different textures of fabric can be used as a means of identifying coordinating separates (Fig. 73). Another help in distinguishing between garments is to attach different kinds of pulls to zipper tabs (Fig. 74).

The color of garments can be identified with French knots in braille, such as a B for blue, etc. (Fig. 75). Metal braille tags are available from the American Society for the Blind, but may be abrasive to sensitive skin. French knots or braille tags may also be used to mark the front and back of a garment.

Clothing Cleanliness

Another problem arises from the blind person's inability to see spots, stains, and the general soil that accumulates on clothing. Possible solutions are to ask a sighted person if spots and soil are present or to launder all washable clothing after each wearing.

As much as possible, select fabrics that can be washed easily and dried wrinkle-free. If a garment requires dry cleaning or any other special kind of care, it can be identified by means of French knots in braille.

Medium- or dark-colored fabrics, textured fabrics, and those with a pattern design will not show soil and wrinkles as much as plain, light-colored fabrics.



Fig. 72. For people who have a little vision, strongly contrasting color values may be an aid in identifying garments.

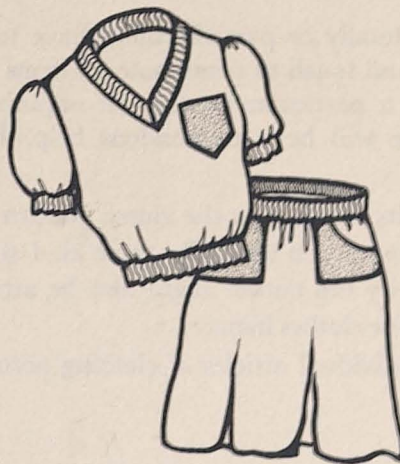


Fig. 73. Variations in texture may help a blind person to distinguish between different garments and parts of a garment.

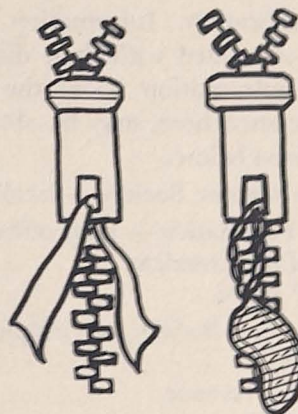


Fig. 74. Clothing can be identified by size, shape, or texture of zipper pull.

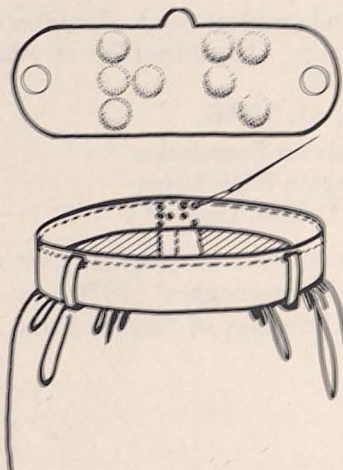


Fig. 75. Colors can be marked by French knots in braille or by metal braille tags.

Management

Since the totally or partially blind have to depend on memory and touch to coordinate all items of clothing worn at a particular time, good organization of the wardrobe will be a tremendous help. Here are a few ideas:

Hang outfits together in the closet. Return them to the same location each time. The same kind of markers used to identify the outfits might also be attached to the closet rod or clothes hanger.

Arrange individual articles of clothing according to

color. This will help when garments are interchanged frequently rather than being used in one outfit.

Store pairs of shoes in their original boxes or clip them together with a clothespin. Attach metal braille markers to boxes for identification. The shoes can be stored in the closet above or below the clothing with which they will be most frequently worn.

Attach markers in the same general location on all similar garments so they will be easy to locate.

Use drawer dividers between items of lingerie, etc. These could be plastic trays of different shapes and sizes.

More Information

There are, of course, disabilities that were not included in this publication. Information about the clothing problems connected with these disabilities, as well as additional information about the disabilities that have been discussed here, may be obtained from the organizations listed below.

1. The American Cancer Society — local office
2. The Arthritis Foundation — local office or
1212 Avenue of the Americas
New York, NY 10036
3. National Easter Seal Society for Crippled Children and Adults, Inc.
2023 West Ogden Avenue
Chicago, IL 60612
4. Sister Kenny Institute
Chicago Avenue at 27th Street
Minneapolis, MN 55407
5. Office of Independent Study, Division of Continuing Education, The University of Alabama
P.O. Box 2967
University, AL 35486
6. Disabled Living Foundation
346 Kensington High Street
London W14 8NS, England

Two books may also be helpful. One is *Clothing Designs for the Handicapped* (1978) by Anne Kernaleguen, The University of Alberta Press, Edmonton,

Alberta, Canada. The other is *A Guide for Grooming and Clothing*, a teachers' guide developed by Sharon S. Redick for use with handicapped students in regular home economics classrooms. It was published in 1976 by The Interstate Printers and Publishers, Inc., Danville, Illinois 61832.

The following are sources of specially designed ready-to-wear and patterns for sewing:

1. Handee for You (fashions for the handicapped; ready-to-wear and kits)
C. O. Smith
7674 Park Avenue
Lowville, NY 13367
2. Kay Caddel (booklet, "Measurements, Guidelines and Solutions — Sewing Garments for the Physically Handicapped")
Route 8, Box 12T2
Lubbock, TX 79407
3. PTL Designs, Inc. (catalog of apparel for the elderly and disabled)
P.O. Box 364
Stillwater, OK 74074

With all the resources that are now available for people with various physical problems, every disabled person should be able to dress as independently as possible and derive comfort, pride, and pleasure from his or her clothing.